

60,246-217; 10,688US

**REMARK**

Applicant would like to thank the examiner for the detailed remarks. Claims 2, 3, 14, 15, 19, 20, 23, 25, 28, and 29 have been cancelled. New claims 30 and 31 are presented. Accordingly, claims 1, 4-13, 16-18, 21, 22, 24, 26, 27, 30, and 31 are pending in the application.

Claim 10 was objected to based upon an informality. Claim 10 has been amended as suggested, and Applicant therefore respectfully requests that the objection be withdrawn.

Claim 8 was rejected under 35 U.S.C. §112, first paragraph. Claim 8 has been amended to delete the variable "x" and Applicant therefore respectfully requests that the rejection be withdrawn.

Claims 2, 3, 8, and 19-22 were rejected under 35 U.S.C. §112, second paragraph. Claims 2, 3, 19, and 20 have been cancelled for reasons unrelated to this office action. Claim 8 has been amended as discussed above to delete the variable "x." Claims 21 and 22 have been amended to correct antecedent basis.

Claims 1, 2, 4, 5, 9-12, 14-20, 23-25, and 27 were rejected under 35 U.S.C. §102(b) as being anticipated by Kataoka. Independent claim 1 has been amended to recite subject matter previously set forth in claim 11 and recites "an enclosure at least partially surrounding said microwave energy source, said enclosure including porous screens for containing the microwaves in the enclosure." Regarding the porous screens, the Examiner indicates on page 5 of the action that the subject matter of claim 11 is disclosed in Figures 1 and 2 of Kataoka. Respectfully, these figures do not disclose a porous screen. In Kataoka, each of the reactor assemblies includes plates positioned on the waveguide to prevent radiation leakage (see page 324, section 2.2, first paragraph and page 325, section 2.3, first paragraph). Thus, the reactor assemblies of Kataoka do not include a porous screen as claimed. For this reason, Applicant respectfully requests that the rejection of claim 1 and its dependent claims be withdrawn.

Additionally, independent claim 24 has been amended to recite subject matter previously set forth in claim 3 and recites "a radiowave energy source." The Examiner admits that a radiowave energy source is not disclosed in either of Kataoka or Obee. The Examiner argues that the subject matter as a whole is within the level of ordinary skill in the art and that the selection of any known equivalents would have been within the level of ordinary skill in the art. Whether

60,246-217; 10,688US

a radiowave energy source is known in the art does not alleviate the burden on the Examiner of providing a motivational reason for incorporating a radiowave energy source into Kataoka. Furthermore, merely stating that a radiowave energy source would be within ordinary skill in the art is not by itself sufficient to support obviousness. The Examiner must provide motivation for incorporating this feature into the base reference, which is missing from the rejection. Thus, the burden remains with the Examiner to establish motivation, and Applicant respectfully requests that the rejection be withdrawn.

Additionally, the statement that the subject matter as a whole would have been within the level of ordinary skill in the art is conclusory and unsupported by documentary evidence. Thus, Applicant respectfully challenges the Examiner under MPEP 2144.03 to provide documentary evidence that establishes this conclusion.

Claims 14 and 18-22 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kataoka. Claims 14, 19, and 20 have been cancelled for reasons unrelated to this office action. Regarding claims 18, 21 and 22, base claim 1 has been amended to include limitations that are not found in Kataoka as discussed above. For this reason, Applicant respectfully requests that the rejection be withdrawn.

Claims 3, 13, 26, and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kataoka in view of Obee. Claims 3 and 28 have been cancelled. Regarding claim 13, base claim 1 has been amended as discussed above to include limitations that are not found in Kataoka. The Examiner relies on Obee to provide the use of infrared radiation and a microwave energy source. Thus, Obee does not provide the porous screen limitation or motivation for incorporating such a feature into Kataoka. Accordingly, Applicant respectfully requests that the rejection of claim 13 be withdrawn.

Regarding claim 26, base claim 24 has been amended as discussed above to include a radiowave energy source, which is not found in Kataoka. The Examiner relies on Obee to provide the use of infrared radiation and a microwave energy source. As discussed above, Obee does not provide a radiowave energy source or motivation for incorporating such a feature into Kataoka. For this reason, Applicant respectfully requests that the rejection of claim 26 be withdrawn.

SEP 24 2007

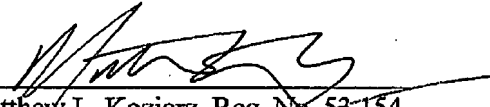
60,246-217; 10,688US

Claims 6-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Kataoka in view of Kobayashi. As discussed above, base claim 1 has been amended to include features that are not found in Kataoka. The Examiner relies on Kobayashi to provide various photocatalytic materials. Thus, Kobayashi does not provide the limitations of amended base claim 1 or motivation for incorporating such limitations into Kataoka. Accordingly, Applicant respectfully requests that the rejection of claims 6-8 be withdrawn.

New claims 30 and 31 have been amended and recite additional features that Applicant believes are not disclosed or suggested by the cited references.

Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. 03-0835 in the name of Carrier Corporation for any additional fees or credit the account for any overpayment.

Respectfully submitted,

  
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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, fax number (571) 273-8300, on September 24, 2007.

  
Laura Combs